

Amendments to the Claims

This listing of claims will replace all prior versions of claims in the application.

1-29. (cancel)

30. (new) A method of making an adhesive tape comprising:

- a) providing a crosslinkable polymer or a mixture of crosslinkable polymers, wherein the melt flow index of the polymer or mixture of polymers is 10-100 g/10 min as measured at 190°C and 2.16 kg according to ASTM D-1238;
- b) compounding the polymer(s) with one or more thermally-conductive fillers to provide a crosslinkable precursor of a thermally-conductive material, wherein the precursor comprises at least 60% by weight of the thermally conductive fillers;
- c) forming the cross-linkable precursor into the shape of a film backing;
- d) crosslinking the film backing so that the film backing has an elastic torque S' of at least 3 dNm as measured according to ASTM D 6294-9; and
- e) providing an adhesive layer on at least one major surface of the film backing.

31. (new) The method of claim 30, wherein the crosslinkable polymers are selected from the group consisting of polyolefins and polyurethanes.

32. (new) The method of claim 30, wherein at least one crosslinkable polymer is a polyolefin having at least 30% by weight ethylene units, optionally wherein the polyolefin is a copolymer comprising ethylene and (meth)acrylate ester units.

33. (new) The method of claim 30, wherein at least one of the crosslinkable polymers comprises one or more moisture-curable groups, optionally wherein the moisture-curable groups comprise silane groups.

34. (new) The method of claim 33, wherein providing the crosslinkable polymer comprising one or more moisture-curable groups comprises reacting a polymer with one or more vinyl silane compounds of the formula $RR'SiY_2$, a free-radical initiator, and, optionally, a catalyst for moisture-curing of the moisture-curable group; wherein R is a monovalently olefinically unsaturated radical, R' is a monovalent radical free of aliphatic unsaturation, and Y is a hydrolyzable organic radical, optionally wherein the vinyl silane compound(s) are employed in an amount of at least 2 parts per 100 parts crosslinkable polymer or polymers.
35. (new) The method of claim 34, wherein the free-radical initiator is selected from the group consisting of organic peroxides and organic peresters, optionally wherein the free-radical initiator is employed in the amount of at least 0.1 parts per 100 parts crosslinkable polymer or polymers.
36. (new) The method of claim 30, wherein the thermally-conductive filler is selected from the group consisting of alumina, aluminum oxide, aluminum trihydroxide and magnesium hydroxide.
37. (new) The method according to claim 30, wherein cross-linking the film comprises applying γ -irradiation, optionally wherein the γ -irradiation has an energy of between 50 keV-25 MeV, and optionally wherein the γ -irradiation dosage is at least 50 kGy.
38. (new) The method according to claim 30, wherein cross-linking the film comprises moisture-curing.
39. (new) An adhesive tape made according to the method of claim 30.

40. (new) An adhesive tape comprising a film backing and an adhesive layer on at least one major surface of the film backing, wherein the film backing comprises a crosslinked, thermally-conductive material comprising
- a) one or more crosslinked polymers, wherein the melt flow index of the polymer or mixture of polymers prior to crosslinking is 10-100 g/10 min as measured at 190°C and 2.16 kg according to ASTM D-1238; and
 - b) at least 60% by weight of one or more thermally-conductive fillers, based on the total weight of the thermally-conductive material;
- wherein the crosslinked film backing has an elastic torque S' of at least 3 dNm as measured according to ASTM D 6294-9; optionally wherein the adhesive is a pressure-sensitive adhesive.
41. (new) The adhesive tape of claim 40, wherein the crosslinkable polymers are selected from the group consisting of polyolefins and polyurethanes.
42. (new) The adhesive tape of claim 40, wherein the crosslinkable polymer is a polyolefin having at least 30% by weight ethylene units, optionally wherein the polyolefin is a copolymer comprising ethylene and (meth)acrylate ester units.
43. (new) The adhesive tape of claim 40, wherein at least one of the crosslinkable polymers comprises one or more moisture-curable groups, optionally wherein the moisture-curable groups comprise silane groups.
44. (new) The adhesive tape of claim 43, wherein the crosslinkable polymer comprising one or more moisture-curable groups comprises the reaction product of a polymer with one or more vinyl silane compounds of the formula $RR'SiY_2$, wherein R is a monovalently olefinically unsaturated radical, R' is a monovalent radical free of aliphatic unsaturation, and Y is a hydrolyzable organic radical, optionally wherein the vinyl silane compound(s) are employed in an amount of at least 2 parts per 100 parts crosslinkable polymer or polymers.

45. (new) The adhesive tape of claim 40, wherein the thermally-conductive filler is selected from a group consisting of alumina, aluminum oxide, aluminum trihydroxide and magnesium hydroxide.
46. (new) The adhesive tape of claim 40, wherein the tape has a dielectric strength of at least 55 kV/mm as measured according to DIN EN 60243-1.
47. (new) The adhesive tape of claim 40, wherein the tape has an effective thermal conductivity of at least 0.4 W/m-K as measured according to ASTM D 5470-95.
48. (new) The adhesive tape of claim 40, wherein the tape has thickness of less than 300 μm .
49. (new) An assembly comprising the adhesive tape of claim 40 bonded between two substrates, optionally wherein the tape provides thermal conductivity between the two substrates.